Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.-62. (cancelled)

63. (New) A drive system for providing electrical power to drive an electrical load, the drive system comprising:

at least one electrical load terminal for electronic connection to a load;

a power source for providing an electrical power signal;

a controller for providing the at least one control signal;

a safety circuit for receiving the at least one control signal and having an enable state and a disable state, wherein the safety circuit is electrically coupled to the power source and to the at least one load terminal, and wherein the safety circuit is configured to connect the electrical power signal to the at least one load terminal upon receipt of the at least one control signal and to disconnect the electrical power signal from the at least one load terminal upon no receipt of the at least one control signal.

64. (New) A drive system as recited in claim 63, wherein the electrical load comprises a DC motor, the power source provides a DC power signal and wherein the safety circuit is provided in a DC-DC step up converter.

65. (New) A drive system as recited in claim 64 wherein the DC-DC step up converter is configured to convert the DC power signal from the power source to motor power signal having a DC value corresponding to a rated motor winding value of the DC motor and which is significantly higher than the voltage value of the DC power signal from the power source.

66. (New) A drive system as recited in claim 64 further comprising at least one Zener diode coupled between the converter and at least one electrical load terminal.

67. (New) A drive system as recited in claim 66, further comprising a Schottky diode coupled in parallel to the Zener diode.

68. (New) A drive system as recited in claim 66, wherein the at least one Zener diode comprises a Zener diode coupled in a reversed biased configuration.

69. (New) A drive system as recited in claim 66, wherein said at least one Zener diode comprises a first and second Zener diodes coupled in series, said second Zener diode being coupled in reverse biased arrangement relative to said first Zener diode.

70. (New) A drive system as recited in claim 63 wherein the electrical load comprises a DC motor coupled to drive a medical infusion pump.

71. (New) A drive system as recited in claim 63 further comprising a converter for converting the power signal from the power source to a further power signal sufficient to operate the load.

72. (New) A drive system as recited in claim 71, wherein the converter is selectively enabled and disabled and is configured to receive at least one control signal from the controller and enable conversion upon receipt of the at least one control signal.

73. (New) A drive system as recited in claim 71, wherein the at least one load terminal comprises first and second load terminals and wherein the converter comprises

a first electrically conductive path coupled to the power supply and to the first load terminal;

a second electrically conductive path coupled to the power supply and to the second load terminal;

a first switching element located in the first electrically conductive path for coupling a power signal to the first load terminal upon the first switching element being in a first switching state and for decoupling a power signal to the first load terminal upon the first switching element being in a second switching state; and

a second switching element located in the second electrically conductive path for coupling a power signal to the second load terminal upon the second switching element being in a first switching state and for decoupling a power signal to the second load terminal upon the second switching element being in a second switching state;

wherein the first and second switching elements are responsive to first control signals from the controller for selectively switching between states.

74. (New) A drive system as recited in claim 73, further comprising:

a third switching element coupled on one side to the first conductive path at a location between the power supply and the first switching element and coupled at a second side to the second conductive path at a location between the second switching element and the second load terminal, the third switching element for coupling a power signal to the second load terminal upon the third switching element being in a first switching state and for decoupling a power signal to the second load terminal upon the first switching element being in a second switching state; and

a fourth switching element coupled on one side to the second conductive path at a location between the power supply and the second switching element and coupled at a second side to the first conductive path at a location between the first switching element and the first load terminal, the fourth switching element for coupling a power signal to the first load terminal upon the first switching element being in a first switching state and for decoupling a power signal to the first load terminal upon the first switching element being in a second switching state;

wherein the third and fourth switching elements are responsive to second control signals from the controller for selectively switching between states.

75. (New) A drive system as recited in claim 63 wherein the safety circuit is encapsulated by a potting material.

76. (New) A drive system as recited in claim 63 wherein the safety circuit is encapsulated by a potting material and wherein at least one of the controller and the power supply are not fully encapsulated or unencapsulated.

77. (New) A drive system as recited in claim 63 wherein the safety circuit is encapsulated by a potting material and wherein the controller is not fully encapsulated or unencapsulated.

78. (New) A drive system as recited in claim 71, wherein the converter is encapsulated by a potting material.

79. (New) A drive system as recited in claim 71, wherein at least one of the safety circuit and the converter are encapsulated by a potting material and wherein at least one of the controller and the power supply are not fully encapsulated or unencapsulated.

80. (New) A drive system as recited in claim 63 wherein the power supply comprises at least one electrical terminal for coupling to a battery.

81. (New) A method of coupling a drive system for providing electrical power to drive an electrical load, the method comprising:

coupling at least one electrical load terminal to a load;

obtaining a power signal from a power source;

providing at least one control signal from a controller;

receiving at least one control signal with a safety circuit having an enable state and a disable state;

electrically connecting the power source to the at least one load terminal with the safety circuit upon receipt by the safety circuit of the at least one control signal and electrically disconnecting the electrical power signal from the at least one load terminal with the safety circuit upon no receipt by the safety circuit of the at least one control signal.

82. (New) A method as recited in claim 81, further comprising encapsulating the safety circuit with a potting material, wherein at least one of the controller and the power supply are not fully encapsulated or unencapsulated.

83. (New) A method for selectively protecting an electrical system that provides power from a power source to energize a load, the method comprising:

encapsulating a power driver circuit for controllably transferring power from the power source to the load; and

providing an unencapsulated controller for enabling and disabling the power driver circuit, the controller being un-encapsulated, such that contaminants in the protected electrical system are more likely to induce an electrical fault and disable the un-encapsulated controller and are substantially inhibited from inducing an electrical fault in the encapsulated power driver circuit.

84. (New) The method recited in claim 83, wherein encapsulating the power driver circuit comprises encapsulating the power driver circuit in a potting material.

85. (New) The method recited in claim 83, further comprising providing at least one un-encapsulated circuit element that is dissolvable by the contaminant such that the system is disabled upon dissolving of the un-encapsulated circuit element.

86. (New) The method recited in claim 83, further comprising connecting at least one un-encapsulated circuit element for sensing a contaminant and passing a signal to the controller when the contaminant is sensed such that the controller disables the system.

87. (New) The method recited in claim 86, wherein the at least one circuit element comprises a humidity sensor.

88. (New) The method recited in claim 86, further comprising initiating a user-perceptible alarm upon passing the signal from the sensing circuit element to the controller.

89. (New) The method recited in claim 88, wherein the user-perceptible alarm comprises at least one of an audio signal, a displayed message, and a vibration.

90. (New) The method recited in claim 84, wherein the potting material is a moisture-resistant potting material.

91. (New) The method recited in claim 90, wherein the moisture-resistant potting material is selected from the group consisting essentially of parylene, room temperature vulcanizing silicone elastomers (RTV's), silicone, epoxies, adhesives, and plastics.

92. (New) The method recited in claim 83, wherein the load is a DC motor.

93. (New) The method recited in claim 92, wherein the DC motor is coupled to drive a pump to deliver a fluid.

94. (New) The method recited in claim 93, wherein the pump is an infusion pump, and wherein disabling the controller reduces the possibility of accidental delivery of excess fluid.

95. (New) A method for providing power from a power source to energize a load, the system comprising:

coupling a controller with a power driver circuit for controlling the power driver circuit;

coupling the power driver circuit to a load for transferring power from a power source to a load under control of the controller; and

selectively covering the power driver circuit with a potting material such that the power driver circuit is encapsulated by the potting material and such that the control portion remains un-encapsulated by the potting material, and such that contaminants that may be in the system are more likely to induce an electrical fault and disable the un-encapsulated control portion and are inhibited from inducing the electrical fault in the encapsulated power driver circuit.

96. (New) The method recited in claim 33, further comprising coupling a safety circuit having a disable state and an enable state to the controller and the power driver portion and controlling the safety circuit by the controller to inhibit transferring power from the power source to the load when the safety circuit is in a disable state and to permit transferring power from the power source to the load when the safety circuit is in an enable state.

97. (New) The method recited in claim 34, further comprising encapsulating the safety circuit in a potting material.

98. (New) The method recited in claim 97, wherein the potting material is a moisture-resistant potting material.

99. (New) The method recited in claim 98, wherein the moisture-resistant potting material is selected from the group consisting essentially of parylene, room temperature vulcanizing silicone elastomers (RTV's), silicone, epoxies, adhesives, and plastics.